IN REPLY REFER TO:
3504

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
OIL SHALE PROJECT OFFICE
P.O. Box 580
Grand Junction, CO 81501

January 16, 1985

Memorandum

To: Vernal District Manager

From: Manager

Subject: Bonding, U-a/U-b

Upon inquiry by the White River Shale Oil Corporation, their bond was reviewed by the Oil Shale Project Staff. This bond was raised from $1.5 million to $4.4 million in 1984 at the request of Utah Division, Oil Gas and Mining. The rationale used by UDOGM to arrive at this amount is spelled out in the December 10, 1984, letter attached.

We have put together a proposed 1.25 million bonding amount summary which is also attached. The $1.25 million is based on anticipated development on U-a/U-b within the next three years. There is no need to bond for more than a three year period as the lease calls for a bond review every three years. The bond can also be changed as needed anytime during this three year period.

As a comparison, the present bonds on all three Prototype tracts are as follows:

C-a	-	$4,000,000
C-b	-	2,250,000
Ua/Ub	-	4,400,000

These figures include the MIS retort on C-a which is estimated to cost $2,727,000 to completely grout if necessary. Costs are high on C-b due to over 100 monitoring wells, some as deep as 2,000'. Also, there are three large shafts and two concrete headframes to demolish.

We recommend the BLM and UDOGM review the present bond and if appropriate, bring it more in line with present planned disturbance within the next three years.

Enclosures
(as)

There would be a cost to breaking up the concrete foundations. There is an estimated 25,000 square feet of foundation which would be broken up. The 25,000 ft.^{2} is estimated to be 1,000 cubic yards. At an estimate cost of $40 per yard this is 40,000. The reclamation is covered under that heading.

Underground Plumbing: All underground plumbing and pipes must be removed or plugged. This is for piping near the surface only. An estimate of $10,000 is used.

Wells: There are twenty-five water wells and bore holes on site which will need to be plugged. Some of these would be used for stock water wells. However, for abandonment they are all included for plugging which consists of cementing total depth. Estimated cost based on estimates by local well logging companies is $8,000 each. This estimate is high because it assumes a 1,000' well on the average.

Reclamation: A very minimum of recontouring would be needed. Compacted areas would need to be ripped. All topsoil-like material which was stock piled would be replaced over the disturbed area. The exceptions would be the runoff detention ponds below the high water line and the paved access road. The access road is assumed to be needed for public access and pond for livestock water.

The reclamation plan approved by the Bureau for drastically disturbed lands does not call for transplants. Therefore the bonding should not be based on transplants being used in the reclamation plan.

Currently WROSC estimates they will actually disturb approximately 204 acres during Phase I. In arriving at a bonding figure, an estimate of 225 acres should be used. The cost to lay an 8-10" blanket of topsoil-like material on the disturbed area is estimated at $\$1.00/yd^3$. This cost assumed a 1/2 mile travel for all material. The figure of $1.00/per yard was supplied by an estimator from Corn Construction Company, Grand Junction, Colorado, as what they would bid on the re-topsoiling project.

A seeding rate of 20 lb/Ac is much too high for such an arid region. For drilling, a rate of 8-10 lbs PLS is more appropriate or double that for broadcasting.

The cost for seed of $50 per acre is based on current seed prices at the Farmers Seed Company, Fruita, Colorado. The seed market has been much stronger the past year than it has been for the last three.

The cost of $60/Ac to drill the site is an estimate supplied by LRK Inc. This company is heavily involved in reclamation work in Colorado and Utah.

Mine Sealing: The costs for sealing the mine are based on completely filling the mine with earthen material. Bentonite plugs would be installed above and below all water bearing zones. Sealing the decline would be much more difficult as material would need to be transported down the decline for filling.

Summary of Reclamation Bond Costs

The OSPO estimates costs of reclamation on U-a/U-b as follows:

Item		Cost
Electrical System		0
Major Equipment		0
Buildings		
Removal of building		0
Removal of foundations		40,000
Underground plumbing		10,000
Well plugging		
25 wells at $8,000 each		200,000
Reclamation		
Deposit 8-10" of topsoil-like mat'l		
1200 yds^3 x $1.00/yd x 225 AC	=	270,000
Drill disturbed areas with approved seed mixture		
10 lbs P.L.S. at $50/lb x 225 Ac	=	11,200
225 Ac. x $60/Ac for drilling	=	13,500
Mine Sealing		
Decline - 67,000 cu yds at $6/$yd^3$	=	420,000
Shaft 26,000 cu yds at $3/yd	=	80,000
Subtotal		$1,044,750
Approx. 20 percent contingency added		208,950
Total		1,253,700
Rounded off, the recommended bond becomes		1,250,000

The rationale and suppporting data for determining reclamation costs on U-a/U-b are given as follows.

Electrical System: The electrical wire, generators and transformers above ground can be sold for salvage for a net income. There is no electrical wiring or equipment underground that must be removed prior to sealing the mine. What is there can be sold for salvage or left intact.

Major Equipment: All of this equipment can either be sold as used equipment or as salvage. In either case there is no net cost, only income from the sale.

Buildings: The mine buildings are all metal buildings. They can be sold as used or for salvage for the steel in them. At the very least they could be given away for the salvage. In any case there is no net cost.